

Roy Luo

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EDUCATION

University of Waterloo

Honours Mathematics, Coop

Waterloo, Ontario

September 2023 – April 2027

McMaster University

Mathematics and Statistics

Hamilton, Ontario

September 2022 – April 2023

TECHNICAL SKILLS

Languages: Python, R, SQL, C, Bash

Platforms and Tools: PowerBI, SQL Server, Excel, Git

Libraries: pandas, NumPy, Matplotlib, Plotly, tidyverse, ggplot2

EXPERIENCE

Investment Risk Analyst Intern

January 2024 – April 2024

Healthcare of Ontario Pension Plan

Toronto, ON

- Developed and implemented a dynamic hedging calculation automation using Python and Excel, reducing manual processing time by 20+ hours a month and enhancing monthly reporting accuracy
- Engineered a stress testing tool that evaluated the impact of real interest rate fluctuations on billions in liabilities and U.S. Treasury bond holdings
- Design and implement risk reports, dashboard, and other visualization tools
- Support the development of new risk measures and reports

Data Analyst Intern

May 2023 – August 2023

Precision Insight Consulting

Markham, ON

- Automated over 10 workflows by incorporating 30+ Microsoft Office Scripts and .NET console applications to improve workflow procedure, bolster work capacity, and reduce workflow execution time
- Wrote 4 technical documentations to preserve manufacturing process knowledge and standardize operations
- Analyzed over 7000+ data entries using Excel to optimize SMT machine precision and meet product tolerances
- Pioneered a PCB database and label placement standard to enable internal traceability for over 200 products

PROJECTS

Live Crypto Orderbook Dashboard | *R, SQL Server, PowerBI*

- Cloned a Discord music bot using NodeJS to allow users to play music from YouTube within Discord servers
- Uploaded and stored data in SQL Server, loaded it into PowerBI using DirectQuery and created live dashboard.
- Engineered an efficient data processing pipeline for real-time updates and maintenance of a structured dataset for further analysis.
- Maintained a near real-time cryptocurrency orderbook dashboard, displaying critical metrics like mid-market rate, order prices, market depth, and bid-ask spread.

League of Legends Jungle Tracker | *Python, pandas, Plotly*

- Developed a Python application with a Streamlit UI to retrieve data from a REST API based on user input.
- Utilized pandas to process data, generating interactive Plotly visualizations on-demand.
- Implemented algorithms to identify specific players in ongoing matches and extract targeted data.
- Parsed through JSON data and handled API errors using requests library.
- Visualized players' in-game positions at defined time intervals in historical matches.

UFO Sighting Data Analysis | *R, tidyverse, ggplot2*

- Processed and transformed Kaggle datasets using R's data science libraries, ensuring high data quality.
- Applied advanced data wrangling techniques, focusing on time series and geographic data to prepare the data for analysis.
- Conducted thorough exploratory data analysis, uncovering significant relationships and extracting actionable insights.
- Effectively communicated findings using engaging ggplot2 visualizations, enhancing data-driven storytelling.
- Analyzed UFO sighting data to shed light on the lack of conclusive evidence regarding the existence of extraterrestrial life.